Proteases from Gram-Positive Organisms David A. Estell SN# Unassigned Docket No. GC381-US-D1 Sheet 1 of 11

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FIG._1A

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FIG._1B

	4
170 180 EGIIKIRTGNLNEYSE :::::: :::: QSVVQNGMYKGFTL 50 60 230 240 RYCRSREKGPYAAKTD : :: : : : : EYANIHENGELG-KTE 110 280 290 ↓↓ -GGIFVGPCGNKVDHA :: : : : PGDFFYVPSGT :PGDFFYVPSGT 340 3340	SIPERHTVHH 230
170 .TIEGIIKIF : :::: 2NGQSVVQ 50 230 GVQRYCRSRE : : EYANIHE : : 160 160 LYTSSFYPV	KSIEVIEVP? 220
160 160	EGKLRELHLK 210
140 150 160 170 180	LYDYDRKDAI 200
140 SYVDWRQKGAVT 20 20 CNGGYPWSAI : : QLEGDRFPLLT* 80 LLYSIANQI ILYGHNATTKEI ILYGHNATTKEI 130 140 INSWGTGWGEI	TQQNSDTTYF 190
130	: AIGKGILALETQQNSDTTYRLYDYDRKDAEGKLRELHLKKSIEVIEVPSIPERHTVHH 180 190 200 210 230 230
130	YJDE EQ

FIG. 2

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	/KG	= .	rkg		•	-	ECW	=======================================	всм	H		-	GKG	: =	CKG	. н	
.50	NGQSVVQNGM)		KGPSTVANGP	20		110	IHENGELGKT		ene egelgkt	110		170 II	YVP SGTVHAI	: : : : : : : : : : : : : : : : : : : :	YYVPSGTLHAI	170 TT	
40	ф rgeсwafaaho	=======================================	rgecwaisahp A	140		100	VQVHPNDEYAN	= -:-::	IKVHPDDYYAG	100	. :	160	RRVKVKPGDFI		RRIKIKPGDF	160	
30	-FGYTIPSQR1	:::::::::::::::::::::::::::::::::::::::	RFGYSIPSEST	30	•	06	KILDADQDLS		TKLLDVKEDTS	06		150	MIERGEWDELL	= :: ::	MINSGDWEGLL	150	FIG3A
20	RIWGGTALAD		KIWGGTALRD	20		08)LEGDRFPLLT		SVEGDRFPLLI	80	• .	140	NATTKEELTTN		TARSKTELVTI	140	正
10	↑ MTTEPLFFKPVFKERIWGGTALAD-FGYTIPSQRTGECWAFAAHQNGQSVVQNGMYKG	= ::	MTQSPIFLTPVFKEKIWGGTALRDRFGYSIPSESTGECWAISAHPKGPSTVANGPYKG	10		0.4	LSELWEHHRHLFGOLEGDRFPLLTKILDADQDLSVQVHPNDEYANIHENGELGKTECW		IELWEEHREVFGGVEGDRFPLLTKLLDVKEDTSIKVHPDDYYAGENEEGELGKTECW	70		130	DCOKDAEIIYGHNATTKEELTTMIERGEWDELLRRVKVKPGDFFYVPSGTVHAIGKG	11 :11:111111:11:1111:1:1111:1:1111:1:11111	DCKENAEIIYGHTARSKTELVTMINSGDWEGLLRRIKIKPGDFYYVPSGTLHALCKG	130	
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Proteases from Gram-Positive Organisms David A. Estell SN# Unassigned Docket No. GC381-US-D1 Sheet 5 of 11

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200	DYDRKDAEGK		200	260	SGSASLKQQ	- - -	:NGEAEMAQDI	260		귤 <u></u>	11
190	♦↓ ALETQQNSDTTYRLYDYDRKDAEGKLRELHLKKSIEVIEVPSIPERHTVHHEQIEDLL	:	↓ 190	250	TLIECAYFSVGKWNLSGSASLKQQKPFLLISVIEGEGRMISGEYVYPFKKGDHMLLPY		TFVQGEYFSVYKWDINGEAEMAQDESFLICSVIEGSGLLKYEDKTCPLKKGDHFILPA	250	310	GEFKLEGYAECIVSHL	TCTL 310
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30	GYTIPSORT		GYAIPSQKTG	30	06	ILDADQDLSVQ		LDANMDLSVQ	06	150	ERGEWDELLRR		ESGDWNGLLRF	150
20	TEPLFFKPVFKERIWGGTALAD-FGYTIPSQRTGECWAFAAHQNGQSVVQNGMYKG		THPLFLEPVFKERLWGGTKLRDAFGYAIPSQKTGECWAVSAHAHGSSSVKNGPLAG	20.	08	LSELWEHHRHLFGQLEGDRFPLLTKILDADQDLSVQVHPNDEYANIHENGELGKTECW	= = = = = = = = = = = = = = = = = = = =) OVWKDHPE I FGF PDGKV F PLLVKLLDANMDLS VQVH PDDDYAKLHENGDLGKTECW	80	140	DCQKDAEIIYGHNATTKEELTTMIERGEWDELLRRVKVKPGDFFYVPSGTVHAIGKG	- :: :: :: :: :: :: :: :: :: :: :: :: ::	DCKDDAELILGHHASTKEEFKQRIESGDWNGLLRRIKIKPGDFFYVPSGTLHALCKG ▲▲	140
10	JEFKPVFKER]		LFLEPVFKERI	10	70	EHHRHLFGQL		KDHPEIFGFP	70	130	DAEIIYGHNA	: : : : : : : : : : : : : : : : : : : :	овегігення	130
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	59 yjde.pep	T	l YDHS	KT		19 yjde.pep	ΥΙ	1 I YDHS	ΥΙ		79 yjde.pep	II	 YDHS	TL

FIG._4A

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	:11 VLEI		: : : YDRCNDQGO	:: :: KRTLHIEKAN	EVITIPHIDE	: : ::: KVHTPEVKEV	: SNAE
	180	190	200	210	220	230	
	240	250	260	270	280	290	~ .
99 yjde.pep	TLIE	TLIECAYFSVGKWNLSGSASLKQQKPFLLISVIEGEGRMISGEYVYPFKKGDHMLLPY	GSASLKQQK	PFLLISVIE	SEGRMI SGEY	VYPFKKGDHMI	LLPY
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	VYVQ	YVQSDYESVYKWKISGRAAFPSYQTYLLGSVLSGSGRIINNGIQYECNAGSHFILPA	GRAAFPSYQ	TYLLGSVLS(SSGRIINNGI	QYECNAGSHF.	ILPA
	240	250	260	270	280	290	
/jde.pep /DHS	300 GEFK - GEFT	300 310 GEFKLEGYAECIVSHL : :: GEFTIEGTCEFMISHP 300 310		· i			

F/G._4B

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FIG._5A

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FIG._5B

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610 590 cgggtgtacgattatgaccgtcttgatagcaacggaagtccgagagag V Y D Y D R L D S N G S P R E 650 630 cttcattttgccaaagcggtcaatgccgccacggttccccatgtggac HFAKAVNAATVPHVD 710 690 gggtatatagatgaatcgacagaatcaagaaaaggaataaccattaaa Y I D E S T E S R K GII 750 730 acatttgtccaaggggaatatttttcggtttataaatgggacatcaat EYFSV Y F V O 790 70 ggcgaagctgaaatggctcaggatgaatcctttctgatttgcagcgtg s f L I C S V M A Q D E A E 850 830 atagaaggaagcggtttgctcaagtatgaggacaaaacatgtccgctc E G S G L L K Y E D K 890 870 aaaaaaggtgatcactttattttgccggctcaaatgcccgattttacg K G D H F I L P A Q MP 930 ataaaaggaacttgtacccttatcgtgtctcatatt I V S T L K G ,C

FIG._6B